Health Physics Instrument Laboratory (HPIL)

The HPIL provides neutron, gamma, and x-ray irradiations, primarily for the purposes of calibrating radiation monitoring instruments and radiation dosimeters. The facility also provides irradiations for research and development programs at the INEEL. CFA-1618 has a controlled atmosphere in the Laboratory area, which provides a stable temperature and humidity environment for calibration of radiation instruments. The calibrations performed are traceable to the National Institute of Standards and Technology (NIST).

Although CF-1618 is a new facility, having been placed into service in 2003, the HPIL has been an integral part of the INEEL since its inception as the National Reactor Testing Station (NRTS). A Safety Analysis Document describes the interlocks and safety systems that are required to assure the safety of the operations.

The HPIL calibrates over 2000 radiation instruments per year, maintaining a working inventory of about 900 instruments in the field at any one time. The Dosimetry irradiations, both neutron and gamma, are performed regularly on a monthly basis to assure the accuracy of the personnel radiation dosimeters. Irradiations for R&D programs are also performed. Irradiations of liquid solutions were recently completed for one project to a total dose in excess of 1.5 million Rads.

The Automated Irradiator System (AIS)

There are Four AIS's in HIPL

- Gamma Beam Irradiator System (GBIS)
    - Co-60 (2.5, 250 CI)
    - Cs-137 (0.015, 0.5, 10, 100. 1450 Ci)
- Four Gamma Well Irradiator System GWIS)
    - Cs-137 (4.0, 10, 100 Ci)
- Low Scatter Irradiator System (LSIS)
    - Co-60 (3.0 Ci)
    - Cs-137 (0.05, 3.0, 100 Ci)

    - Cf-252 (0.03, 0.3, 3.0 mg)
- X-Ray Beam Irradiator System (XBIS)
    - 320 KeV